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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,269	10/23/2003	Raymond Rui-Feng Liao	2003P10141US01	1537

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Siemens Corporation
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EXAMINER	
MERED, HABTE	

ART UNIT	PAPER NUMBER
2416	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/692,269	LIAO ET AL.	
	Examiner	Art Unit	
	HABTE MERED	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3/6/09*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18,20 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18,20 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed on 3/6/2009 has been entered and fully considered.

2. Claims 1-18, 20, and 21 are pending. Claims 1, 20, and 21 are the base independent claim. Claim 19 has been previously cancelled. All independent claims are amended.

3. The Information Disclosure Statement filed 12/14/2007 is now acknowledged and the 1149 form acknowledging review of the two prior arts cited in the IDS of 12/14/07 is part of the instant Office Action.

Response to Arguments

4. Applicant's arguments, see Remarks filed on 3/6/09, with respect to the rejection(s) of claim(s) 1 and 20 under 35 U.S.C. 102(e) have been fully considered but they are not persuasive.

Applicant argues in the Remarks in the last two paragraphs of page 7 that Kowalski'563 does not teach the specific limitation in all independent claims reciting or requiring classifying each of the plurality of client devices into one of a plurality of client device types. Applicant indicates that Kolwaski'563 teaches in paragraphs 58 and 59 ranking or classifying flows instead of devices and cannot possibly teach the limitation in question.

Examiner respectfully disagrees with Applicant's conclusions and positions as stated in the Remarks. After carefully reviewing Applicant's arguments it appears that Applicant has not fully appreciated the entire disclosure of Kolwaski'563 and seems to cite and analyze the advanced features of Kolwaski'563 disclosure completely out of context.

Kolwaski'563 indeed primarily classifies or ranks or categorizes devices into different client device types based on QoS/delay/jitter as indicated in paragraph 55 specifically item 3. Based on the QoS/delay/jitter characteristics of traffic the device generates the access point assigns TXOP duration and TXOP intervals. Hence one set of category of device types can be low QoS/delay/jitter tolerant devices and high QoS/delay/jitter tolerant devices. Paragraph 71 specifically points out TXOP is primarily assigned to devices and not flows. Paragraphs 83 and 84 clearly shows the access point classifying device Station 1 as a low QoS/delay/jitter tolerant device and device Station 2 as a high QoS/delay/jitter tolerant device. Further paragraphs 55 and 84 show that the first TXOP is given to the low QoS/delay/jitter tolerant device (i.e. station 1) and remaining TXOP is given to high QoS/delay/jitter tolerant devices (i.e. station 2).

Applicant fails to realize that unlike Applicant's invention Kowalski's devices are able to generate more than one flow per device and the access point still can rank these flows on a QoS/delay/jitter basis as indicated in paragraphs 58 and 59 in addition to classifying the devices on a QoS/delay/jitter basis as reflected by the order, duration, and interval of TXOP allocation. Note that as

stated in paragraph 71 TXOP are assigned to devices and not to flows and it is the devices that further assign TXOP to specific flows.

5. Further, Examiner has now rejected independent claim 20 under U.S.C. 102(e) with a new prior art (i.e. Lee'877) to simply reiterate that the limitations cited in all of the independent claims are broad. Lee'877 clearly discloses the limitation requiring classifying each of said plurality of client devices into one of a plurality of client device types based on, at least, a measurement of current and previous traffic loads for each of said plurality of client devices, and a determination of whether said client device is critical.

6. Finally the Examiner would like to bring to Applicant's attention that the Applicant's disclosure in the published specification in paragraphs 85 through 90 that give specific method of determining packet loss probability using buffer size can be considered novel strictly from the perspective of overcoming the prior arts of record. Examiner is disclosing aspects of Applicant's disclosure that are yet unclaimed and seem to overcome the prior art of record in order to expedite prosecution of the Application by providing compact prosecution.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1, 7-16, and 18** are rejected under 35 U.S.C. 102(e) as being Kowalski by (US Pub. No. 2003/0063563).

Regarding **claim 1**, Kowalski'563 discloses a method for providing a delay guarantee **(See paragraphs 19 and 27 – polling sequence of mobile stations via access point based on QoS and latency guarantees)** for each of a plurality of client devices **(i.e. wireless LAN Stations - see paragraph 26)** associated with an access point **(i.e. "point coordinated function" or PCF or HC or "Hybrid Coordinator" – see paragraphs 26 and 34 and constitutes part of an access point. The access point also includes Band Width Manager and Scheduler)**, comprising:

classifying each of the plurality of client devices **(i.e. wireless LAN stations)** into one of a plurality client device types **(i.e. HC ranks each station according QoS/delay/jitter ranging low to high in paragraph 55 item 3 and also paragraphs 71, 83 and 84 indicating Station 1 classified as lower delay tolerant device and Station 2 as higher delay tolerant device. If a station has many flows then the flows are classified by the HC - see paragraph 59)** based on, at least, a measurement of current and previous traffic loads for each of the plurality of client devices **(i.e. the HC's Band Width Manager constantly monitors the queue sizes of each station and/or flow and reclassifies the station and/or flow to a different QoS/delay/jitter as disclosed in paragraphs 36, 37 and 50)**, and a determination of whether the client device is critical **(i.e. high QoS or low delay/jitter device can be considered critical as indicated in paragraph 55)**;

determining a desired traffic load for the plurality of client devices **(i.e. the Bandwidth Manager is responsible for determining the desired traffic load based on the Transmission Specification (TSPEC) – see paragraphs 50-51 and 60-66 in general and in particular paragraphs 51 and 66)**;

and allocating shaper intervals to each of the plurality of client devices based on the client device type classification of each of said plurality **(i.e. Station 1 and Station 2 – paragraphs 83-84 and Fig. 2)** of client devices **(HC's scheduler varies TXOP duration and TXOP interval based on the type of device which in turn depends on the level of delay guaranteed for the device (i.e. Stations 1 and 2) as well as queue size as detailed in paragraphs 82-86)** and the desired traffic load wherein the classifying, determining, and allocating are performed by the access point **(Classification of device is done by access point as shown in paragraphs 55, 59, 83, and 84 and determining desired traffic load is done by scheduler and BWM of the access point as detailed in paragraphs 51, 66, and 69 and TXOP allocation is done by access point as detailed by paragraphs 69 and 71)**.

Regarding **claim 7**, Kowalski'563 discloses a method, wherein the determining a desired traffic load for the plurality of client devices includes determining a maxMeanAccessTime value associated with the plurality of client devices **(See paragraphs 65 and 66)**.

Regarding **claim 8**, Kowalski'563 discloses a method, wherein the determining a desired traffic load for the plurality of client devices includes determining an access

delay time **(i.e. average TXOPS)** for a first of the plurality of client devices **(See paragraphs 62 and 63)**.

Regarding **claim 9**, Kowalski'563 discloses a method, wherein the determining a desired traffic load for the plurality of client devices includes determining a target Inter-Frame Space value associated with the plurality of client devices **(See Table 2 for target Interframe space values).**

Regarding **claim 10**, Kowalski'563 teaches a method, further comprising: allocating bandwidth to each of the plurality of client devices **(See paragraph 55 – the Access Point Scheduler allocating bandwidth to stations)**.

Regarding **claim 11**, Kowalski'563 discloses a method wherein the allocating bandwidth to each of the plurality of client devices includes determining a target frame rate and shaper interval for a first client device **(See paragraphs 65 and 66 frame rate being determines as well as shaper interval)** in the plurality of client devices based on a guarantee delay time **(See paragraphs 82-84 for guarantee delay time determination)** associated with the first client device and a maxMeanAccess Delay **(i.e. TXOP and TXOP interval see paragraph 66)** value associated with the plurality of client devices **(i.e. stations 1 and 2 as discussed in paragraphs 82-84)**.

Regarding **claim 12,** Kowalski'563 discloses a method of further comprising determining a reference time for first client device in of the plurality of client devices based on a shaper interval associated with the first client device **(See Kowalski'563 paragraph 26, last line shows the AP scheduler transmitting a beacon signal containing reference time to all stations when to transmit).**

Regarding **claim 13**, Kowalski'563 discloses a method, wherein the allocating shaper intervals to each of the plurality of client devices based on client device type classification and the desired traffic load includes allocating a shaper interval to a first client device in the plurality of client devices such that the first client device's interframe interval is larger than the shaper interval **(i.e. in paragraphs 62-63 and 82-84 the shaper interval is modified such that the current interframe interval is greater than the previous shaper interval).**

Regarding **claim 14**, Kowalski'563 discloses a method, further comprising: determining a guarantee delay value for a first of the plurality of client devices **(TXOP and TXOP interval determine the guarantee delay of the stations in paragraphs 62 and 64-66)**.

Regarding **claim 15**, Kowalski'563 discloses a method teaches a method further comprising: receiving a request for new bandwidth **(See Paragraph 67 the station requesting TXOP)**.

Regarding **claim 16**, Kowalski'563 discloses teaches a method, further comprising: determining bandwidth consumption for at least some of the plurality of client devices **(See Paragraph 62 where traffic/bandwidth consumption is measured in the form of queue/buffer size).**

Regarding **claim 18**, Kowalski'563 teaches a method, wherein the access point **(i.e. "point coordinated function" or PCF or HC or "Hybrid Coordinator" – see paragraphs 26 and 34 and constitutes part of an access point. The access point also includes Band Width Manager and Scheduler)**, performs the classifying each of

the plurality of client devices into one of a plurality of potential client device types **(i.e. HC ranks each station according QoS/delay/jitter. If a station has many flows then the flows are classified by the HC - see paragraph 59)**;

the determining a desired traffic load for the plurality of client devices **(i.e. the Bandwidth Manager is responsible for determining the desired traffic load based on the Transmission Specification (TSPEC) – see paragraphs 50-51 and 60-66 in general and in particular paragraphs 51 and 66)**;

and the allocating shaper intervals to each of the plurality of client devices based on client device type classification and the desired traffic load **(Classification of device is done by access point as shown in paragraph 59 and determining desired traffic load is done by scheduler and BWM of the access point as detailed in paragraphs 51, 66, and 69 and TXOP allocation is done by access point as detailed by paragraphs 69 and 71)**.

8. **Claim 20** is rejected under 35 U.S.C. 102(e) as being anticipated by Lee'652 et al (US 7, 154, 877 B2).

Regarding **claim 20**, Le'877 discloses an article of manufacture comprising:

a computer readable medium **(i.e. Fig 3. element 135)** having stored thereon instructions which, when executed by a processor, cause the processor **(Fig. 3 access network 110' has access point 115' has to have a processor like element 130 and software running on the processor)** to:

classify each of a plurality of client devices **(i.e. Figs. 3 elements 105a-e)** into one of a plurality of client device types **(i.e. Fig. 4 step 150 and Column 4, Lines 40-**

43) based on, at least, a measurement of current and previous traffic loads for each of the plurality of client devices **(i.e. based on traffic data measured and recorded by Fig. 3 prioritizer 130 the access points ranks the devices based on priority)**, and a determination of whether the client device is critical **(i.e. the device with the highest priority can be considered critical and device 105A is critical as it is assigned unassigned slots as shown in Table 2)**;

determine a desired traffic load for the plurality of client devices **(i.e. the prioritizer 130 continuously monitors the traffic of each device and determines new need as shown in Table 3 - the need for device 105A decreased and it is now allotted only two additional slots)**;

and allocate shaper intervals **(i.e. varying number of slots assigned to devices in Tables 1-3)** to each of the plurality of client devices based on the client device type classification and the desired traffic load **(i.e. priority ranking - see also Fig. 4 steps 150 and 155)** wherein the classifying, determining, and allocating are performed by the access point **(Classification of device, allocation of time slots, determining all future is done by Fig. 3 access point 115' component 130 also referred to as prioritizer)**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. **Claims 2-5** are rejected under 35 U.S.C.103 (a) as being unpatentable over Kowalski'563 in view of Gu et al (Daqing Gu and Jinyun Zhang, "QoS Enhancements in IEEE802.11 Wireless Local Area network", IEEE, June 2003, Pages 120-124).

Regarding **claim 2**, Kowalski'563 fails to teach a method wherein the client device types include critical compliant, critical non-compliant, non-critical satisfied, non-critical regulated, and non-critical non-responsive.

However, the above mentioned claimed limitations are well known in the art as evidenced by Gu. In particular, Gu discloses a method wherein the client device types include critical compliant, critical non-compliant, non-critical satisfied, non-critical regulated, and non-critical non-responsive **(See Table 1, Page 122 – the 802.11 enhancement for QoS protocol defines 8 different level of priorities and the Applicant's priorities can be associated with any of the priorities in table 1 – in fact one also can argue that Spinar's Active, Recently Active, Pausing and inactive can be mapped into the categories shown in the limitation).**

In view of the above, having the method of Kowalski'563 and then given the well established teaching of Gu, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method of Kowalski'563 as taught by Gu, the benefit of using various priorities resulting directly from the modification is to provide QoS in a manner compliant with the IEEE 802.11 enhancement for QoS protocol.

Regarding **claim 3**, the combination of Kowalski'563 and Gu discloses a method wherein the allocating shaper intervals to each of the plurality of client devices based on client device type classification and the desired traffic load includes allocating a shaper interval of zero to a client device classified as critical compliant **(See also Gu Table 2 on page 123. Assigning zero is literally possible according to Gu's teachings which is based on the enhanced standard but has the drawback of depriving access to low priority devices.).**

Regarding **claim 4**, the combination of Kowalski'563 and Gu discloses a method, wherein the allocating shaper intervals to each of the plurality of client devices based on client device type classification and the desired traffic load includes allocating a shaper interval of zero to a client device classified as critical non-compliant if no traffic overload exists for the access point **(See also Gu Table 2 on page 123. Assigning zero is literally possible according to Gu's teachings which is based on the enhanced standard but has the drawback of depriving access to low priority devices.)**.

Regarding **claim 5**, the combination of Kowalski'563 and Gu discloses a method, wherein the allocating shaper intervals to each of the plurality of client devices based on client device type classification and the desired traffic load includes allocating a non-zero shaper interval to a client device in the plurality of client devices classified as critical non-compliant when a traffic overload exists for the access point and the plurality of client devices includes at least one client device classified as critical compliant. **(See GuTable 1 and Table 2 on pages 122-123).**

10. **Claims 6 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kowalski'563 in view of Awater et al **(US 2007/0109980)**.

Regarding **claims 6**, Kowalski'563 fails to teach a method, further comprising: disassociating at least one of the pluralities of client devices from the access point if a traffic overload exists for the access point.

However, the above mentioned claimed limitations are well known in the art as evidenced by Atwater'980. In particular, Atwater'980 discloses a method, further comprising: disassociating at least one of the plurality of client devices from the access point if a traffic overload exists for the access point **(See Figure 4, step 50 and Figure 5, step 58).**

In view of the above, having the method of Kowalski'563 and the well established teaching of Atwater'980, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method of Kowalski'563 as taught by Atwater'980, the benefit being to use load balancing is to improve roaming as detailed by Awater in paragraph 14.

Regarding **claim 17**, it is noted that the limitations of claim 17 corresponds to that of claim 6 as discussed above, please see the Examiner's comments with respect to claim 6 as set forth in the rejection above.

11. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kowalski'563 in view of Del Prado Pavon et al **(US Pub. No. 20040047351)**.

Regarding **claim 21**, Del Prado Pavon'351 discloses an apparatus **(i.e. Figure 1, element 125 QoS AP)**, comprising: a processor **(The Access Point of Figure 1 is**

further shown in Figure 3 with different network Layers and has to have a processor to implement the Network layers);

a communication port **(i.e. physical Layer 375, 380 emulates a physical port)** coupled to the processor **(i.e. needed to run the different network layers)** and adapted to communicate with at least one device **(QAP 125 of Figure 1 communicates with devices QSTAs 130, 135 as shown in Figure 1)**; and

a storage device **Figure 3, element 390** coupled to the processor and storing instructions adapted to be executed by the processor **(See Figure 3, element 390 and paragraph 62)**.

Del Prado Pavon'351 fails to disclose an apparatus that classifies each of a plurality of client devices into one of a plurality of potential client device types based on, at least, a measurement of current and previous traffic loads for each of the plurality of client devices, and a determination of whether the client device is critical; determines a desired traffic load for the plurality of client devices; and allocates shaper intervals to each of the plurality of client devices based on the client device type classification of each of said plurality of client devices and said desired traffic load wherein the classifying, determining, and allocating are performed by the access point.

However, the above mentioned claimed limitations are well known in the art as evidenced by Kowalski'563. Kowalski'563 discloses an apparatus that classifies each of a plurality of client devices **(i.e. wireless LAN stations)** into one of a plurality of potential client device types **(i.e. HC ranks each station according QoS/delay/jitter ranging low to high in paragraph 55 item 3 and also paragraphs 71, 83 and 84**

indicating Station 1 classified as lower delay tolerant device and Station 2 as higher delay tolerant device. If a station has many flows then the flows are classified by the HC - see paragraph 59) based on, at least, a measurement of current and previous traffic loads for each of the plurality of client devices **(i.e. the HC's Band Width Manager constantly monitors the queue sizes of each station and/or flow and reclassifies the station and/or flow to a different QoS/delay/jitter as disclosed in paragraphs 36, 37 and 50)**, and a determination of whether the client device is critical **(i.e. high QoS or low delay/jitter device can be considered critical as indicated in paragraph 55)**;

determine a desired traffic load for the plurality of client devices **(i.e. the Bandwidth Manager is responsible for determining the desired traffic load based on the Transmission Specification (TSPEC) – see paragraphs 50-51 and 60-66 in general and in particular paragraphs 51 and 66)**;

and allocate shaper intervals to each of the plurality of client devices based on the client device type classification **(HC's scheduler varies TXOP duration and TXOP interval based on the type of device which in turn depends on the level of delay guaranteed for the device as well as queue size as detailed in paragraphs 82-86)** of each of said plurality **(i.e. Station 1 and Station 2 – paragraphs 83-84 and Fig. 2)** of client devices **(i.e. HC ranks each station according QoS/delay/jitter ranging low to high in paragraph 55 item 3 and also paragraphs 71, 83 and 84 indicating Station 1 classified as lower delay tolerant device and Station 2 as higher delay tolerant device)** and the desired traffic load wherein the classifying, determining, and

allocating are performed by the access point **(Classification of device is done by access point as shown in paragraph 59 and determining desired traffic load is done by scheduler and BWM of the access point as detailed in paragraphs 51, 66, and 69 and TXOP allocation is done by access point as detailed by paragraphs 69 and 71)**.

In view of the above, having the apparatus of Del Prado Pavon'351 and then given the well established teaching of Kowalski'563, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the apparatus of Del Prado Pavon'351 as taught by Kowalski'563, since Kowalski'563 states in paragraph 15 that such a modification results in a scheduler for providing quality of service in a local area network.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HABTE MERED whose telephone number is (571)272-6046. The examiner can normally be reached on Monday to Friday 10:30AM to 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung S. Moe can be reached on 571 272 7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2416

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5-17-09